(a) locating a dispenser containing a solution comprising a compound a distance away from a surface of the support;

(b) dispensing a droplet of 5 nl or less from the dispenser, with the droplet contacting the surface at a localized area smaller than 1 cm^2;

(c) allowing the compound to attach directly or indirectly to the surface of the support at the localized area;

(d) repeating steps a through c to attach a same or different compound at a same or different localized area until an array of at least 10 different reagents at different localized areas is formed.

49. The method of claim 48 wherein the compound is dissolved in the solution.

50. The method of claim 48 wherein the compound is in the form of a pellet.

51. The method of claim 48 further comprising the step of contacting the dispenser to the surface of the support.

52. The method of claim 48 wherein the support further comprises a cover plate.

53. The method of claim 48 wherein the distance away is between about 5 microns and about 50 microns.

54. The method of claim 48 wherein the distance away is about 10 microns.

55. The method of claim 48 wherein the droplet fits within a region having a diameter of less than about 300 microns.

56. The method of claim 48 wherein the compound comprises a monomer or a polymer.

57. The method of claim 56 wherein the monomer comprises a nucleotide or an amino acid.

58. The method of claim 56 wherein the polymer comprises a nucleic acid, oligonucleotide, polynucleotide, peptide, polypeptide, presynthesized polymer, polyurethane, polyester, polycarbonate, polyurea, polyamide, polyethyleneimine, polyacetate, receptor, enzyme, antibody, catalytic polypeptide, hormone receptor, or opiate receptor.

59. The method of claim 56 wherein the polymer comprises at least 2 monomers.

60. The method of claim 56 wherein the polymer comprises greater than 100 monomers.

61. The method of claim 56 wherein the polymer comprises 2, 3, 4, 5, 6, 10, 15, 20, 30, 40, 50, 75, or 100 monomers.

62. The method of claim 48 wherein the support is selected from the group consisting of substantially flat substrates, substrates having raised or depressed regions, beads, gels, sheets, particles, strands, precipitates, spheres, containers, capillaries, pads, slices, films, plates, and slides.

63. The method of claim 48 wherein the support comprises a gel.

64. The method of claim 48 wherein the support comprises biological materials, nonbiological materials, organic materials or inorganic materials.

65. The method of claim 48 wherein the support is a disc, square, or circle.

66. The method of claim 48 wherein the localized area is smaller than $1mm^2$.

67. The method of claim 48 wherein the localized area is smaller than $0.5mm^2$.

68. The method of claim 48 wherein the localized area is smaller than 10,000 μm^2.

69. The method of claim 48 wherein the localized area is smaller than 100 μm^2.

70. The method of claim 48 wherein the reagents are at least 5% pure in their respective localized areas.

71. The method of claim 48 wherein the reagents are at least between about 10% and about 20% pure in their respective localized areas.

72. The method of claim 48 wherein the reagents are at least between about 80% and about 90% pure in their respective localized areas.

73. The method of claim 48 wherein the reagents are at least greater than about 95% pure in their respective localized areas.

74. The method of claim 48 wherein an array of at least 100 different reagents at different localized areas is formed.

75. The method of claim 48 wherein an array of at least 1000 different reagents at different localized areas is formed.

76. The method of claim 48 wherein an array of at least 10,000 different reagents at different localized areas is formed.

77. The method of claim 48 wherein an array of at least 100,000 different reagents at different localized areas is formed.

78. The method of claim 48 wherein an array of at least 1,000,000 different reagents at different localized areas is formed.

79. The method of claim 48, wherein step (d) further comprises forming an array of at least 1000 different compounds occupying localized areas within 1 cm^2 of the surface of the support.

80. The method of claim 48, wherein the support comprises glass, derivatized glass, pyrex, quartz, a polymeric material, polystyrene, polycarbonate, silicon or a gel.

81. The method of claim 48, wherein the solution of the compound comprises an aqueous solution.

82. The method of claim 48 wherein the dispenser comprises a plurality of dispensing units, wherein the plurality of dispensing units is in fluid communication with a solution comprising a compound and wherein step b comprises dispensing a droplet of 5 nl or less from one or more of the plurality of dispensing units.

83. The method of claim 48, wherein the support bears at least two reference points for positioning the dispenser over at least one of said localized areas for release of said droplet.

84. The method of claim 83, wherein the reference points comprise global reference points for positioning the dispenser over a local region of the surface of the support, and local reference points within the local region for positioning the dispenser over a localized area within the local region.

85. The method of claim 83, wherein the dispenser further comprises a camera for identifying the reference points.

86. The method of claim 83 further comprising the step of sensing changes in capacitance to identify the reference points.

87. The method of claim 83 further comprising the step of sensing changes in light intensity to identify the reference points.

88. The method of claim 83 further comprising the step of sensing changes in resistivity to identify the reference points.

89. The method of claim 83 further comprising the step of sensing changes in optical properties to identify the reference points.

90. The method of claim 83 further comprising the step of sensing changes in magnetic properties to identify the reference points.

91. The method of claim 82 wherein the plurality of dispensing units comprises a manifold of delivery lines.

92. The method of claim 82 wherein the plurality of dispensing units comprises an array of pipettes.

93. The method of claim 82 wherein the plurality of dispensing units comprises a series of tubes.

94. The method of claim 82 wherein the plurality of dispensing units includes control valves.

95. The method of claim 48 wherein the compound is bound indirectly to the surface of the support via a linker molecule.

96. The method of claim 48 wherein the dispenser is moved relative to the support.

97. The method of claim 48 wherein the support is moved relative to the dispenser.

98. The method of claim 48 wherein the one or more localized areas are spaced less than about 3 mm apart.

99. The method of claim 48 wherein the one or more localized areas are spaced less than between about 5 microns and 100 microns apart.

100. The method of claim 48 wherein the one or more localized areas has an angular relation between each localized area of about 1 degree.

101. The method of claim 48 wherein the one or more localized areas has an angular relation between each localized area of about 0.1 degree.

102. The method of claim 48 wherein the support comprises at least about 100 localized areas.

103. The method of claim 48 wherein the support comprises at least about 1000 localized areas.

104. The method of claim 48 wherein the support comprises at least about 10,000 localized areas.

105. The method of claim 48 wherein the support comprises at least about 1000 localized areas per cm^2 of surface of substrate.

106. The method of claim 48 wherein the support comprises at least about 10,000 localized areas per cm^2 of surface of substrate.

107. The method of claim 48 wherein the support comprises a strand including one or more of glass, derivatized glass, quartz, or a polymeric material.

108. The method of claim 48 wherein the dispenser comprises a dispenser tip and a sheath encircling the dispenser tip and rigidly extending a fixed distance beyond the dispenser tip.

109. The method of claim 48 wherein the surface of the support comprises a hydrophilic or hydrophobic substance.

110. The method of claim 48 wherein the surface of the support comprises a photoresist.

111. The method of claim 48 wherein the surface of the support is cleaned prior to the step of dispensing a droplet.

112. The method of claim 48 wherein the dispenser comprises a pipette.

113. The method of claim 48 wherein the dispenser comprises a capillary tube.

114. The method of claim 48 wherein the dispenser comprises an electrophoretic pump.

115. The method of claim 48 wherein the dispenser comprises an osmotic pump.

116. The method of claim 48 wherein the dispenser comprises a cell sorter.

117. A method of forming an array of compounds on a support having one or more localized areas comprising

(a) locating a dispenser comprising a plurality of dispensing units a distance away from a surface of the support, wherein the plurality of dispensing units is in fluid communication with a solution comprising a nucleic acid or polypeptide;

(b) dispensing at least one droplet of 5 nl or less from the dispenser, with the at least one droplet contacting the surface at a localized area smaller than 1 cm^2;

(c) allowing the nucleic acid or polypeptide to attach directly or indirectly to the surface of the support at the localized area;

(d) repeating steps a through c to attach a same or different nucleic acid or polypeptide at a same or different localized area until an array of at least 10 different compounds at different localized areas is formed.

118. The method of claim 117 wherein the plurality of dispensing units comprises a manifold of delivery lines.

119. The method of claim 117 wherein the plurality of dispensing units comprises an array of pipettes.

120. The method of claim 117 wherein the plurality of dispensing units comprises a series of tubes.

121. The method of claim 117 wherein the plurality of dispensing units includes at least one control valve.

122. The method of claim 117 wherein an array of at least 100 different compounds at different localized areas is formed.

123. The method of claim 117 wherein an array of at least 1000 different compounds at different localized areas is formed.

124. The method of claim 117 wherein an array of at least 10,000 different compounds at different localized areas is formed.

125. The method of claim 117 wherein an array of at least 100,000 different compounds at different localized areas is formed.

126. The method of claim 117 wherein an array of at least 1,000,000 different compounds at different localized areas is formed.

127. The method of claim 62 wherein the compound is a nucleic acid or a polypeptide.

128. The method of claim 63 wherein the compound is a nucleic acid or a polypeptide.

129. The method of claim 74 wherein the compound is a nucleic acid or a polypeptide.

130. The method of claim 75 wherein the compound is a nucleic acid or a polypeptide.

131. The method of claim 76 wherein the compound is a nucleic acid or a polypeptide.

132. The method of claim 79 wherein the compound is a nucleic acid or a polypeptide.

133. The method of claim 80 wherein the compound is a nucleic acid or a polypeptide.

134. The method of claim 81 wherein the compound is a nucleic acid or a polypeptide.

135. The method of claim 105 wherein the compound is a nucleic acid or a polypeptide.

136. The method of claim 106 wherein the compound is a nucleic acid or a polypeptide.

137. The method of claim 62 wherein the compound is a nucleic acid.

138. The method of claim 63 wherein the compound is a nucleic acid.

139. The method of claim 74 wherein the compound is a nucleic acid.

140. The method of claim 75 wherein the compound is a nucleic acid.

141. The method of claim 76 wherein the compound is a nucleic acid.

142. The method of claim 79 wherein the compound is a nucleic acid.

143. The method of claim 60 wherein the compound is a nucleic acid.

144. The method of claim 62 wherein the compound is a nucleic acid.

145. The method of claim 105 wherein the compound is a nucleic acid.

146. A method of forming an array of nucleic acids on a support having one or more localized areas comprising

(a) moving a dispenser containing a solution comprising a nucleic acid having greater than 100 monomers toward a surface of the support;

(b) dispensing a droplet of 5 nl or less from the dispenser, with the droplet contacting the surface at a localized area smaller than 100 μm^2;

(c) allowing the nucleic acid to attach directly or indirectly to the surface of the support at the localized area;

(d) repeating steps a through c to attach a same or different nucleic acid at a same or different localized area until an array of at least 1000 different reagents at different localized areas is formed.

147. A method of forming an array of nucleic acids on a support having one or more localized areas comprising

(a) moving a dispenser comprising a plurality of pipettes in fluid communication with a solution comprising a nucleic acid having greater than 100 monomers toward a surface of the support;

(b) dispensing at least one droplet of 5 nl or less from the dispenser, with the at least one droplet contacting the surface at a localized area smaller than 100 μm^2;

(c) allowing the nucleic acid to attach directly or indirectly to the surface of the support at the localized area;